Amendments to the claims

Please amend the claims of the instant application as follows:

1. (Presently amended) A method performed by a network edge router located at an incoming edge of an IP network, the method for ~~of~~ authenticating indicated IP source addresses comprised in IP data packets to be transmitted through ~~an~~ the IP network, the method comprising the steps of:

receiving an IP data packet at ~~an~~ the incoming edge of ~~an~~ the IP network, the IP data packet comprising an indicated IP source address;

determining whether said IP data packet having been received at said incoming edge of the IP network is consistent with it having originated at said indicated IP source address; and

ensuring that a predetermined data field of said IP data packet contains a value representative of whether said IP data packet having been received at said incoming edge of the IP network is consistent with it having originated at said indicated IP source address,

wherein the step of determining whether said IP data packet having been received at said incoming edge of the IP network is consistent with it having originated at said indicated IP source address comprises performing a Reverse Path Forwarding test on said IP data packet.

2. Canceled.

3. (Original) The method of claim 1 wherein said predetermined data field of said IP data packet comprises an otherwise unused data field of said IP data packet.

4. (Original) The method of claim 1 wherein said predetermined data field of said IP data packet comprises a Type of Service data field.

5. (Original) The method of claim 4 wherein said step of ensuring that said predetermined

field of said IP data packet contains a value representative of whether said IP data packet having been received at said incoming edge of the IP network is consistent with it having originated at said indicated IP source address comprises

ensuring that the Type of Service data field contains a zero value if said IP data packet having been received at said incoming edge of the IP network is not consistent with it having originated at said indicated IP source address, and

ensuring that the Type of Service data field contains a non-zero value if said IP data packet having been received at said incoming edge of the IP network is consistent with it having originated at said indicated IP source address.

6. (Original) The method of claim 5 wherein said ensuring that the Type of Service field contains a non-zero value if said IP data packet having been received at said incoming edge of the IP network is consistent with it having originated at said indicated IP source address comprises the steps of

determining if the Type of Service field already has a non-zero value, and

modifying the Type of Service field to have a non-zero value only if it does not already have a non-zero value.

7. (Original) The method of claim 1 wherein the step of determining whether said IP data packet having been received at said incoming edge of the IP network is consistent with it having originated at said indicated IP source address comprises

determining whether said IP data packet having been received at said incoming edge of the IP network has been received from a peer carrier which has already determined whether said IP data packet having been received at said incoming edge of the IP network is consistent with it having originated at said indicated IP source address, and

ensuring that the predetermined data field of said IP data packet contains a value representative of whether said IP data packet having been received at said incoming edge of the IP network was determined by said peer carrier to be consistent with it having originated at said indicated IP source address.

8. (Presently amended) A method <u>performed by a server adapted to process IP data packets received from an IP network</u> ~~of processing IP data packets received from an IP network~~, the IP data packets comprising indicated IP source addresses and one or more of the IP data packets having been marked with indicia of whether the indicated IP source address comprised therein has been authenticated by the IP network, the method comprising the steps of:

determining whether the indicated IP source address comprised in each one of said one or more of the IP data packets has been authenticated by the IP network; and

processing each one of the one or more of the IP data packets based on whether the indicated IP source address comprised therein has been authenticated by the IP network<u>,</u>

<u>wherein the step of processing each one of the one or more of the IP data packets based on whether the indicated IP source address comprised therein has been authenticated by the IP network comprises discarding each of said one or more IP data packets for which the indicated IP source address comprised therein has not been authenticated by the IP network,</u>

<u>the method further comprising the step of performing a look up of one or more indicated IP source addresses comprised in one or more corresponding IP data packets which have been authenticated by the IP network, and wherein the step of processing each one of the one or more of the IP data packets based on whether the indicated IP source address comprised therein has been authenticated by the IP network further comprises discarding one or more of said IP data packets for which the indicated IP source address comprised therein has been authenticated by the IP network based on said look up of said one or more indicated IP source addresses comprised in one or more corresponding IP data packets which have been authenticated by the IP network.</u>

9. (Original) The method of claim 8 wherein said indicia of whether the indicated IP source address comprised in said one or more of the IP data packets has been authenticated by the IP network comprises a value contained in a predetermined data field of each of said IP data packets.

10. (Original) The method of claim 9 wherein said predetermined data field of each of said IP data packets comprises an otherwise unused data field of said IP data packets.

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11. (Original) The method of claim 9 wherein said predetermined data field of each of said IP data packets comprises a Type of Service data field.

12. (Original) The method of claim 11 wherein said Type of Service data field comprised in each of said one or more IP data packets contains a zero value for each of said one or more IP data packets for which the indicated IP source address comprised therein has not been authenticated by the IP network, and contains a non-zero value for each of said one or more IP data packets for which the indicated IP source address comprised therein has been authenticated by the IP network.

13. Canceled.

14. Canceled.

15. (Original) The method of claim 8 wherein the step of processing each one of the one or more of the IP data packets based on whether the indicated IP source address comprised therein has been authenticated by the IP network comprises prioritizing the one or more of the IP data packets based on whether the indicated IP source address comprised therein has been authenticated by the IP network, said IP data packets for which the indicated IP source address comprised therein has been authenticated by the IP network having a higher priority than said IP data packets for which the indicated IP source address comprised therein has not been authenticated by the IP network.

16. (Presently amended) A network edge router located at an incoming edge of an IP network, the router adapted to authenticate indicated IP source addresses comprised in IP data packets to be transmitted through the IP network, the router comprising:

an input port which receives an IP data packet at the incoming edge of the IP network, the IP data packet comprising an indicated IP source address;

means for determining whether said IP data packet having been received at said incoming edge of the IP network is consistent with it having originated at said indicated IP source address; and

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means for ensuring that a predetermined data field of said IP data packet contains a value representative of whether said IP data packet having been received at said incoming edge of the IP network is consistent with it having originated at said indicated IP source address,

wherein the means for determining whether said IP data packet having been received at said incoming edge of the IP network is consistent with it having originated at said indicated IP source address comprises means for performing a Reverse Path Forwarding test on said IP data packet.

17. Canceled.

18. (Original) The router of claim 16 wherein said predetermined data field of said IP data packet comprises an otherwise unused data field of said IP data packet.

19. (Original) The router of claim 16 wherein said predetermined data field of said IP data packet comprises a Type of Service data field.

20. (Original) The router of claim 19 wherein said means for ensuring that said predetermined field of said IP data packet contains a value representative of whether said IP data packet having been received at said incoming edge of the IP network is consistent with it having originated at said indicated IP source address comprises

means for ensuring that the Type of Service data field contains a zero value if said IP data packet having been received at said incoming edge of the IP network is not consistent with it having originated at said indicated IP source address, and

means for ensuring that the Type of Service data field contains a non-zero value if said IP data packet having been received at said incoming edge of the IP network is consistent with it having originated at said indicated IP source address.

21. (Original) The router of claim 20 wherein said means for ensuring that the Type of Service field contains a non-zero value if said IP data packet having been received at said incoming edge of the IP network is consistent with it having originated at said indicated IP source address

comprises

means for determining if the Type of Service field already has a non-zero value, and

means for modifying the Type of Service field to have a non-zero value only if it does not already have a non-zero value.

22. (Original) The router of claim 16 wherein the means for determining whether said IP data packet having been received at said incoming edge of the IP network is consistent with it having originated at said indicated IP source address comprises

means for determining whether said IP data packet having been received at said incoming edge of the IP network has been received from a peer carrier which has already determined whether said IP data packet having been received at said incoming edge of the IP network is consistent with it having originated at said indicated IP source address, and

means for ensuring that the predetermined data field of said IP data packet contains a value representative of whether said IP data packet having been received at said incoming edge of the IP network was determined by said peer carrier to be consistent with it having originated at said indicated IP source address.

23. (Presently amended) A server adapted to process IP data packets received from an IP network, the IP data packets comprising indicated IP source addresses and one or more of the IP data packets having been marked with indicia of whether the indicated IP source address comprised therein has been authenticated by the IP network, the server comprising:

means for determining whether the indicated IP source address comprised in each one of said one or more of the IP data packets has been authenticated by the IP network; and

means for processing each one of the one or more of the IP data packets based on whether the indicated IP source address comprised therein has been authenticated by the IP network,

wherein the means for processing each one of the one or more of the IP data packets based on whether the indicated IP source address comprised therein has been authenticated by the IP network comprises means for discarding each of said one or more IP data packets for which the indicated IP source address comprised therein has not been authenticated by the IP network,

the server further comprising means for performing a look up of one or more indicated IP source addresses comprised in one or more corresponding IP data packets which have been authenticated by the IP network, and wherein the means for processing each one of the one or more of the IP data packets based on whether the indicated IP source address comprised therein has been authenticated by the IP network further comprises means for discarding one or more of said IP data packets for which the indicated IP source address comprised therein has been authenticated by the IP network based on said look up of said one or more indicated IP source addresses comprised in one or more corresponding IP data packets which have been authenticated by the IP network.

24. (Original) The server of claim 23 wherein said indicia of whether the indicated IP source address comprised in said one or more of the IP data packets has been authenticated by the IP network comprises a value contained in a predetermined data field of each of said IP data packets.

25. (Original) The server of claim 24 wherein said predetermined data field of each of said IP data packets comprises an otherwise unused data field of said IP data packets.

26. (Original) The server of claim 24 wherein said predetermined data field of each of said IP data packets comprises a Type of Service data field.

27. (Original) The server of claim 26 wherein said Type of Service data field comprised in each of said one or more IP data packets contains a zero value for each of said one or more IP data packets for which the indicated IP source address comprised therein has not been authenticated by the IP network, and contains a non-zero value for each of said one or more IP data packets for which the indicated IP source address comprised therein has been authenticated by the IP network.

28. Canceled.

29. Canceled.

30. (Original) The server of claim 23 wherein the means for processing each one of the one or more of the IP data packets based on whether the indicated IP source address comprised therein has been authenticated by the IP network comprises means for prioritizing the one or more of the IP data packets based on whether the indicated IP source address comprised therein has been authenticated by the IP network, said IP data packets for which the indicated IP source address comprised therein has been authenticated by the IP network having a higher priority than said IP data packets for which the indicated IP source address comprised therein has not been authenticated by the IP network.